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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/564,203

01/09/2006

Maurizio Castiglioni

2511-1057

5998

466

7590

08/17/2009

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EXAMINER

ABRAHAM, AMJAD A

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

08/17/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/564,203	<b>Applicant(s)</b> CASTIGLIONI ET AL.	
	<b>Examiner</b> AMJAD ABRAHAM	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 8 and 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01/09/2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Applicant's remarks and amendments, filed on May 21, 2009, have been carefully considered. Claims 1-7 have been withdrawn. Claims 9-11 and 13-16 have been canceled. Currently, claims 8 and 12 are now pending.

**New Grounds of rejections based on applicant's amendments as filed on May 21, 2009.**

#### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. Applicant has amended claim 8 to add the claim limitation "an outer step backward from the peripheral edge." It is unclear as to what applicant considers the "outer step." There is no express literal support for an "outer step" in applicant's disclosure. Examiner has interpreted the outer step to be a stepped surface which extends from the base of the mold which would allow the clamping system (14) to mate with the mold.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breitling (German Patent Publication DE 24 18 445 A1—made of record by the applicant) in view of Chun et al. (USP No. 6,382,953) in further view of Vaughn (International Published Application WO 99/64221—made of record by the applicant) and in further view of Planeta (USP No. 4,728,277).
3. Regarding claim 8, Breitling teaches an apparatus for the manufacture of thermoformed bodies by performing a sheet of plastic material,
- a. comprising:
    - i. a thermoforming mold having a sheet shaping surface, a peripheral edge and an outer step; **(See figure 1, showing a thermoforming mold with an outer periphery and a stepped base.)**
      - (1) **The stepped base is better seen in figure 3 as part #9 with an additional stepped portion attached thereto.**
    - ii. a sheet clamping frame peripherally extending around the mold (11), and **(See figure 1, showing a clamping frame (6) which holds a sheet (5). Also see that clamping frame extends around the periphery of the mold.)**
    - iii. support frame and means to operate said support means for supporting the clamping frame, said support frame being positioned and

conformed to move the clamping frame between a raised and a lowered position with respect to the mold; **(See figure 1, showing support means (8) which supports the clamping frame which can raise and lower the frame with respect to the thermoforming mold. See figure 3, showing the extension of the movable support (8).)**

(2) *The extension of the support means (8) controls the movement of the clamping frame (6). Thus the support means is used to control the position of the clamping frame in relation to the mold. See figure 3.*

iv. In which the clamping frame has a geometrically variable shape providing at least a first and a second frame portion, movable in relation to each other; **(See figures 2 and 3, disclosing the clamping frame being bent at a hinge (7) to change the shape of the clamping frame. The movable support means (8) move the 1<sup>st</sup> and 2<sup>nd</sup> frame portion to a variable shape. See V shape of clamping frame in figure 3.)** and control means being operatively connected to said movable frame portions, to selectively vary their disposition in conformity with the shaping surface of the mold . **(See page 3 [paragraph 0002] and claim 5 disclosing that there are control means which is connected to the thermoforming system which allows a technician to alter the movable frame elements via a hydraulic ram.)**

b. With respect to claim 8, Breitling does not teach the following

- v. (1) Wherein the clamping frame extends all around the periphery of the mold.
- vi. (2) Wherein the clamping frame comprises two parallel extending top-open air suction slots having a bottom wall, the suction slots being spaced apart by an intermediate baffle.
- vii. (3) Wherein each suction slot comprises a bar having a width smaller than and spaced apart from the bottom wall, to provide narrow air passages in communication with an air suction manifold by suction holes.
- c. However, Chun teaches it is well known in the art to use a clamping frame which extends all around the periphery of a mold during a thermoforming operation. **(See abstract and figure 2 (clamping mechanisms- part #94 and #106) and column 4 lines 7-12).**
- viii. It would have been obvious to one having the ordinary skill in the art to alter the clamping frame taught in Breitling to incorporate a clamping frame that extended around the whole mold in order to provide better support for the plastic sheet to be thermoformed.
- d. With respect to claim 1, the combination of Breitling and Chun do not teach:
  - ix. (2) Wherein the clamping frame comprises two parallel extending top-open air suction slots having a bottom wall, the suction slots being spaced apart by an intermediate baffle.

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- x. (3) Wherein each suction slot comprises a bar having a width smaller than and spaced apart from the bottom wall, to provide narrow air passages in communication with an air suction manifold by suction holes.
- e. However, Planeta teaches a clamping system which uses venturi type suction slots in order to apply a large suction effect on a plastic sheet material to be formed. **(See abstract and figure 1).**
- xi. Planeta goes on to teach:
  - (3) A film-handling device with two parallel air slots.
    - (a) **See parts 22 and 24 of figure 1**
    - (b) **See column 4 lines 44-55**
  - (4) Having a bottom wall.
    - (c) **See bottom wall of part 28 which is under slots 22 and 28**
  - (5) Wherein the two slots are separated by an intermediate baffle.
    - (d) **See part 18 which acts as a baffle which divides slots from one another**
  - (6) Each suction slot having a bar (protrusion) which is smaller than the bottom wall of the slot. This bar (protrusion) acts to provide narrow air passages in communication with an air suction manifold.
    - (e) **See parts 18b in figure 1 for protrusion/bars**
    - (f) **See part 28 for air manifold**

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xii. Although Planeta teaches an air blowing system. Those having the ordinary skill in the art would know that a suction force could be utilized in such an apparatus. As it is well known to use suction as a clamping means or film holding means.

(7) For example, Vaughn teaches wherein the clamping means (26) for gripping the plastic sheet (15) are of vacuum operated type.

**(See page 4 paragraph [0002] disclosing that the sheet support member (11) holds the sheet at the sheet's edge using a vacuum seal. See figure 6)**

(8) The use of a vacuum seal is a well known practice in the art of clamping a sheet in a thermoforming process. Use of a vacuum operated clamping means is a mere choice out of several possibilities including hinged clamps, locked clamps, manually operated clamps, automatically operated clamps, and fasteners. It would have been obvious to one having the ordinary skill in the art to try a vacuum operated gripper since this is merely a determination of design preference.

(9) Therefore, it would have been obvious to one having the ordinary skill in the art to use the venturi effect created by Planeta in order to increase the suction affect of well known vacuum or suction operated clampers or holding means.

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- f. Breitling and Planeta are analogous art because they are in the same field of endeavor which is using film-handling devices such as sizing frames, clamping frames, or collapsing frames in order to work a sheet of plastic to be formed. At the time of the invention, it would have been obvious to one having the ordinary skill in the art, having the teachings of Breitling and Planeta before him or her, to modify the teachings of Breitling to include the teachings of Planeta for the benefit of using air suction to handle a film instead of mechanical means in order to minimize the waste of sheet material needed during typical mechanical handling.
4. Regarding claim 12, Breitling teaches wherein the clamping frame has a variable geometry for holding the plastic sheet. IN addition, the clamping frame is pivotally connected. **(See figure 3 showing V formation of the clamping frame around pivot (7)).**

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 8 and 12 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMJAD ABRAHAM whose telephone number is (571)270-7058. The examiner can normally be reached on Monday through Friday 8:00 AM to 5:00 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Phillip Tucker can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AAA

/Philip C Tucker/

Supervisory Patent Examiner, Art Unit 1791